

Attorney Docket No. LUKP:126US U.S. Patent Application No. 10/711,851 Reply to Office Action of April 28, 2005

Date: July 26, 2006

Current Status of the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1. (currently amended) In a motor vehicle having a crankshaft starter generator operatively arranged directly between a drive unit and a gearbox, and separated by an engine clutch and a gearbox clutch of a crankshaft, a drive unit, a clutch gearbox, and a wherein said motor vehicle has a power takeoff shaft, a method for operation of said motor vehicle comprising the step of operating the starter generator between the two clutches to turn on the drive unit at a moment in time when the gearbox clutch changes into a slipping state and said power takeoff shaft is disconnected from the drive unit.
- 2. (original) The method recited in Claim 1 wherein the drive unit is an internal combustion unit.
- 3. (original) The method according to Claim 2, wherein the starter generator is operated to start the combustion engine during an electrical start at a moment when a kickdown switch is operated for a certain period of time.
- 4. (original) The method according to Claim 2, wherein the starter generator for starting the combustion engine is operated during an electrical start at a moment when a gas pedal exceeds a defined position or when it is operated beyond a defined span of time.
- 5. (original) The method according to Claim 2, wherein the starter generator is operated to start the combustion engine when a measured vehicle acceleration does not correspond to a defined required vehicle acceleration.
- 6. (original) The method according to Claim 1, wherein starting with an electrical start of the vehicle, the gearbox clutch, located between the gearbox and the starter generator, is operated in a slipping manner until such time as the gearbox clutch operates without slip.

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7. (original) The method according to Claim 2, wherein turning on the engine clutch, arranged

between the starter generator and the combustion engine, is subject to a logic control depending

on fuel consumption.

8. (original) The method according to Claim 2, wherein turning on the engine clutch, arranged

between the starter generator and the combustion engine, is subject to a logic control depending

on a selected driving mode.

9. (original) The method according to Claim 1, wherein as the vehicle is started, and as torque

of the starter generator is either retained or changed, simultaneously, a friction torque is built up

on the engine clutch via a travel or torque control.

10. (previously presented) The method according to Claim 2, wherein prior to a time when a

number of revolutions of the combustion engine and a number of revolutions of the starter

generator are equal, a transmissible torque of the gearbox clutch is again reduced down to a

slippage state.

11. (original) The method according to Claim 2, wherein a defined revolution number threshold

of the combustion engine is exceeded.

12. (original) The method according to Claim 1, wherein a defined slippage revolution number

threshold value is exceeded.

13. (original) The method according to Claim 2, wherein a gradient of the engine or slippage

revolution number exceeds a boundary value.

14. (original) The method according to Claim 2, wherein a value, determined for starting up the

combustion engine is deposited from a control in a volatile memory.

15. (original) The method according to Claim 2, wherein for a period of starting up the

combustion engine, a temperature factor is deposited in a memory of a control device.

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16. (original) The method according to Claim 1, wherein a program part is deposited in a

control, which on the basis of defined starting parameters, calculates a particular necessary

required clutch moment.

17. (original) The method according to Claim 16, wherein the program part preferably

comprises several modules and is either located in a control unit or is subdivided over several

control units that communicate with each other.

18. (original) The method according to Claim 16, wherein the program part with its associated

functions are present in the entire system.

19. (original) The method according to Claim 1, wherein controls of the drive unit, the gearbox

as well as at least one clutch are supplied with data by one coordinator.

20. (original) The method according to Claim 1, wherein a gearbox input revolution number is

acquired by means of a sensor attached to the gearbox.

21. (previously presented) The method according to Claim 2, wherein differences between a

number of revolutions of the starter generator and a number of revolutions of the combustion

engine, data from a wheel sensor, as well as temperatures of the engine and gearbox clutches are

acquired and are processed in a gearbox control.

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22. (currently amended) An apparatus for operating a motor vehicle comprising:

a drive unit;

an engine clutch;

a gearbox clutch;

a crankshaft;

a clutch gearbox;

a power take-off shaft; and,

a crankshaft starter generator operatively arranged directly between said drive unit and said clutch gearbox, and separated by said engine clutch and said gearbox clutch and arranged to turn on said drive unit at a moment in time when a gearbox clutch changes to a slipping state and said power take-off shaft is disconnected from said drive unit.

- 23. (previously presented) The apparatus for operating a motor vehicle according to Claim 22, wherein said drive unit is an internal combustion engine.
- 24. (previously presented) The apparatus for operating a motor vehicle according to Claim 22, wherein said drive unit is a motor.
- 25. (new) In a motor vehicle having a crankshaft starter generator operatively arranged between an engine clutch and a gearbox clutch of a crankshaft, a drive unit, a clutch gearbox, and a power takeoff shaft, a method for operation of said motor vehicle comprising the step of operating the starter generator between the two clutches to turn on the drive unit at a moment in time when the gearbox clutch changes into a slipping state and said power takeoff shaft is disconnected from the drive unit, wherein the drive unit is an internal combustion unit and the starter generator is operated to start the combustion engine when a measured vehicle acceleration does not correspond to a defined required vehicle acceleration.
- 26. (new) The method according to Claim 25, wherein prior to a time when a number of revolutions of the combustion engine and a number of revolutions of the starter generator are equal, a transmissible torque of the gearbox clutch is again reduced down to a slippage state.

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27. (new) The method according to Claim 25, wherein a defined slippage revolution number threshold value is exceeded.

28. (new) The method according to Claim 25, wherein a gradient of the engine or slippage revolution number exceeds a boundary value.

29. (new) The method according to Claim 25, wherein differences between a number of revolutions of the starter generator and a number of revolutions of the combustion engine, data from a wheel sensor, as well as temperatures of the engine and gearbox clutches are acquired and are processed in a gearbox control.